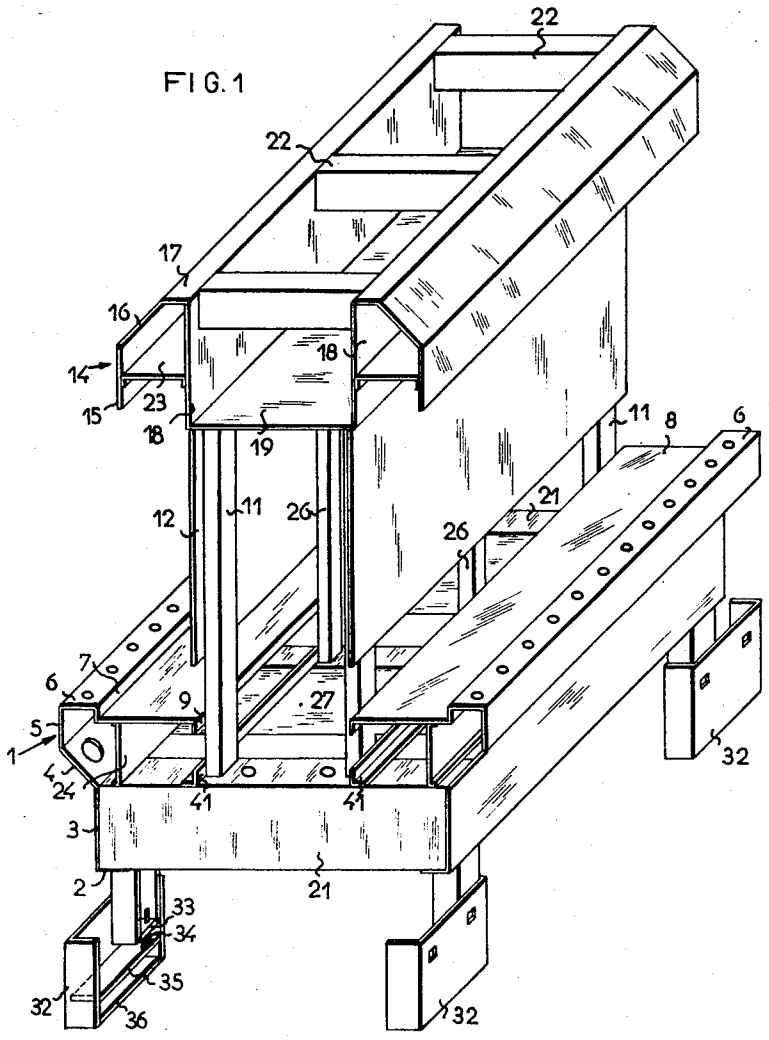
Feb. 2, 1960 J. NIFENECKER 2,923,119

TEXTILE MACHINE FRAME

Filed June 4, 1958 3 Sheets-Sheet 1

FIG. 1



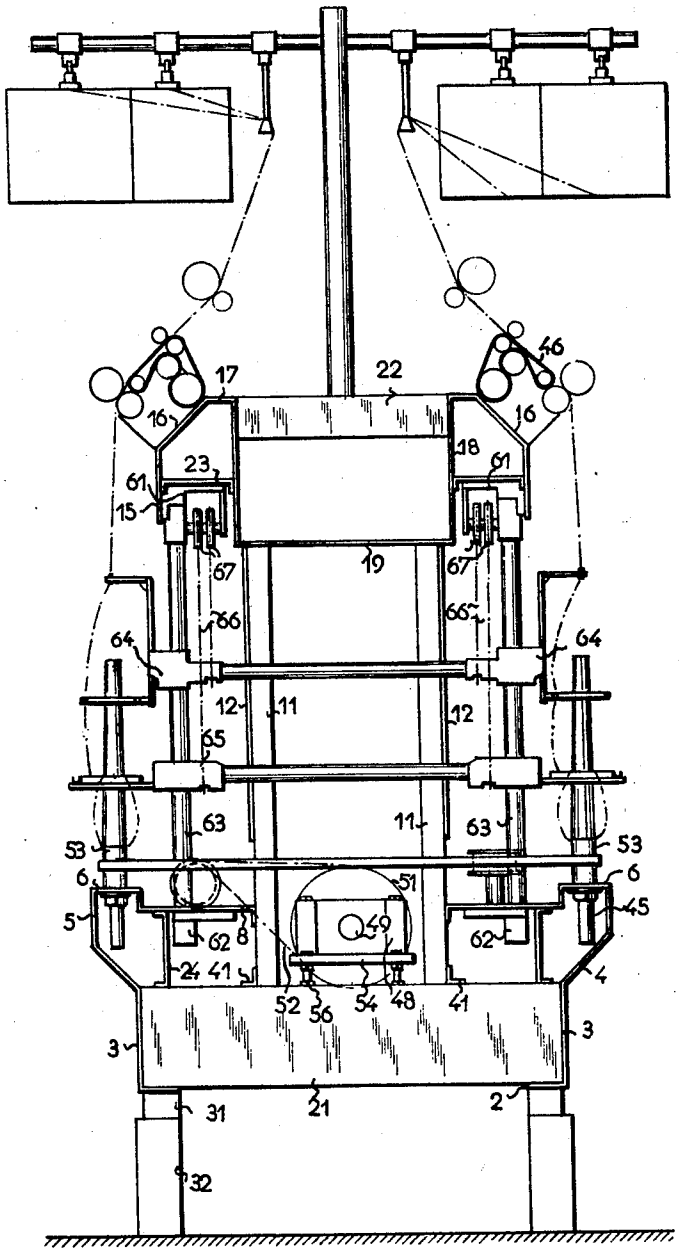
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FIG. 2



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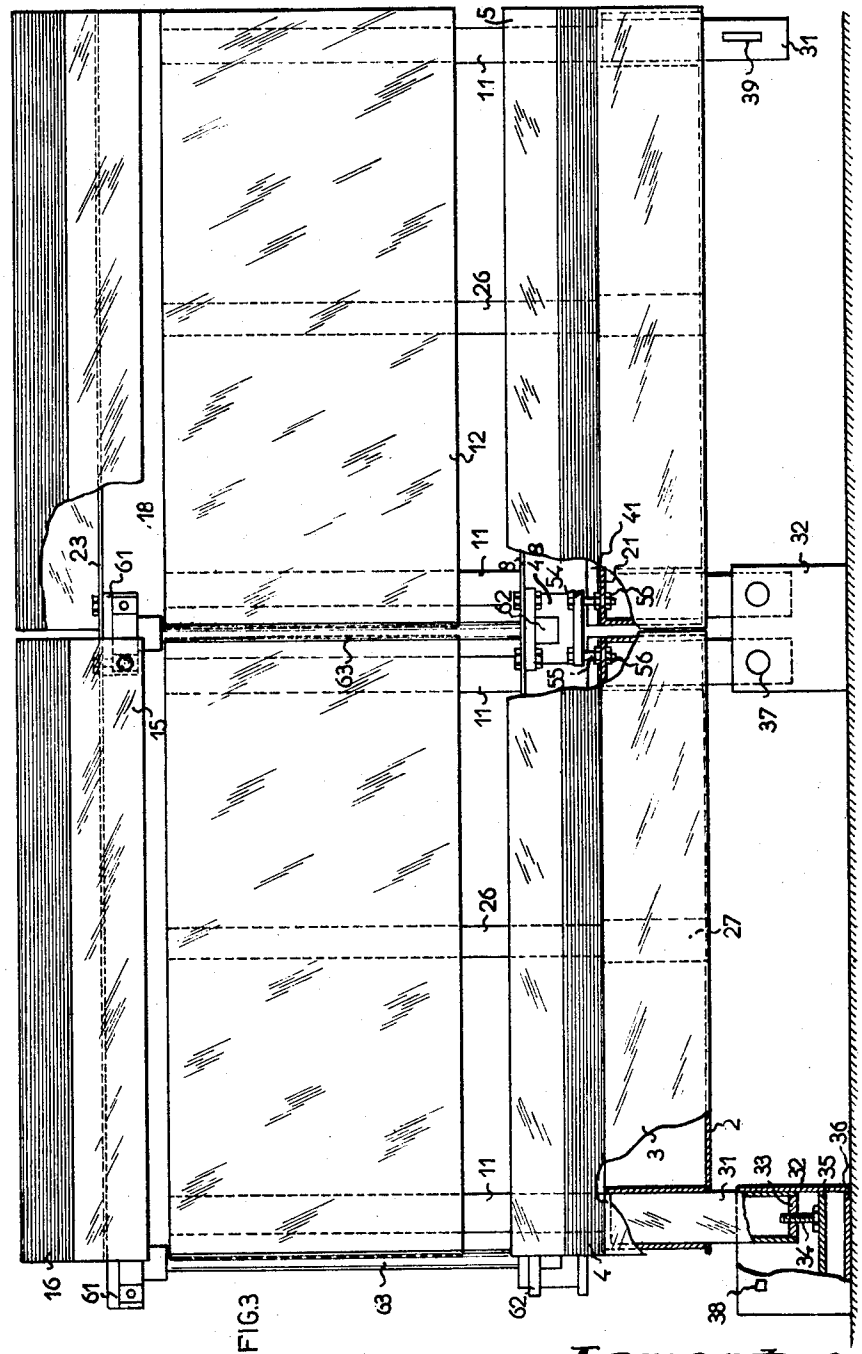


FIG.3

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TEXTILE MACHINE FRAME

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Claims priority, application France June 5, 1957

2 Claims. (Cl. 57—1)

The present invention relates to spinning or twisting machines, or the like. It has for its object a novel bed structure for such machines, which has a number of advantages over the conventional bed structures.

Heretofore, the beds for machines of this kind were constituted by a number of transverse members made of cast-iron secured together by means of sectional longitudinal members, also made of cast iron or steel.

According to the invention, the bed of a spinning or twisting machine or the like is formed by a number of sections assembled together endwise and each constituted essentially by a one-piece tunnel-like structure formed by a metal sheet folded or bent along horizontal lines extending in a direction parallel with the general longitudinal direction of the bed and provided with reinforcing cross-members which are preferably also made of folded sheet metal welded to said tunnel-like structure.

Each bed section having such a structure forms a rigid and light unit which is suitable for mass production and which, therefore, has a low cost. All the operations required for its manufacture, such as cutting, folding, punching and welding, may be carried out on jigs with all desirable accuracy. The mounting of the various members of the machine on the bed is, therefore, made easier. Furthermore, it becomes possible to deliver to the purchaser bed sections with the corresponding members mounted thereon, so that they may be assembled at the place of use.

Furthermore, the members for supporting the various parts of the machine such as the supports for the spindles or the like, instead of being constituted by parts purposely attached to the bed, are formed, according to another feature of the invention, by portions of the sheet metal bed itself. The structure according to the invention, therefore, makes it possible to omit these detachable parts.

Furthermore, according to another feature of the invention, the various sections of the bed are assembled together by members at least a number of which already assume a function other than assembling. So is the case, for instance, for the bearings which support the longitudinal shaft or shafts which carry the drums on which run the belts which drive the spindles, or the supports for the columns on which slide the rods which carry the rings and the "anti-balloon" wires.

Therefore, the total number of parts of machines of this kind may be still materially reduced by the application of this feature of the invention.

Further objects and advantages of the invention will be apparent to those skilled in the art from a consideration of the following description of one embodiment of the invention shown by way of example in the accompanying drawings, in which:

Fig. 1 is a diagrammatical perspective view of a bed section for a spinning machine according to the invention.

Fig. 2 is an elevational end view of the bed assembly

in which the main members of the machine have been diagrammatically shown and

Fig. 3 is a front view of two bed sections similar to that represented in Fig. 1 and shows the details of the endwise connection of these two bed sections.

The bed section of the spinning machine represented in Fig. 1 is exclusively constituted by folded and welded metal sheets, most of which have their folding lines extending in a direction parallel with the longitudinal direction of the bed. The transverse outline of the bed comprises the following main elements: a first metal sheet 1 having a horizontal face 2, a vertical face 3, a slanting face 4, a vertical face 5, a horizontal face 6, a vertical edge 7, a horizontal face 8, and an inner vertical edge 9. Against this inner edge 9 are welded tubular posts 11 which are rectangular in cross-section. The common plane of the outer surfaces of these posts may be considered as one of those determining the transverse outline of the bed. This plane is materialized by a planar metal sheet 12 which could also be formed by a bent extension of the horizontal face 8 of the first metal sheet 1.

The posts 11 support a second folded metal sheet 14 which has the following elements: a vertical outer face 15, a slanting face 16, a small horizontal face 17, an inner vertical face 18, and a horizontal face 19.

The bed is symmetrical with respect to its longitudinal vertical mid plane so that, on the other side thereof, the same elements as those hereinabove described may be found again.

The lower vertical faces 3 are connected at their ends by box structures 21 each constituted by a metal sheet folded in the shape of an inverted U and the ends of which are welded against the faces 3 and also against the lower edges 2. The posts 11 stand on the upper face of the box structures 21.

Against the inner upper faces 18 are welded bracing members 22 also formed by metal sheets folded to an inverted U shape. Both vertically folded edges of a metal strip 23 are welded against the vertical faces 15 and 18, respectively and in a similar manner both horizontally bent edges of a metal strip 24 are welded against the horizontal face 8 of the metal sheet 1 and against the upper face of the box structures 21 respectively. Two intermediate posts 26 stand on an intermediate bracing member 27 and support the horizontal face 19 in the middle of its length.

Both extreme bracing members 21 and the lower longitudinal faces 3 with their horizontal edges 2 form a rigid box structure which supports the whole assembly and which rests on the ground through four very simple jack structures respectively arranged at the four corners of this box structure.

Each one of these jack structures comprises a foot 31 (see Fig. 3) and a base 32. The foot 31 which is U shaped in horizontal section and also constituted by a folded metal sheet, is housed in the end of an extreme bracing member 21, its web engaging the inside of the face 3 and its wings engaging the wings of the bracing member 21. At the lower end of the foot 31 is welded a plate 33 having a screw threaded hole in which is mounted a level adjusting screw 34, the head of which is adapted to bear against the upper face of a plate 35 welded to the inside of the base 32. The base 32 is constituted by a heavy-gauge metal sheet folded in such a manner that its horizontal section also forms a U the web of which is long enough to enable this base to embrace both adjacent feet of two adjacent bed sections and also to serve as an element for assembling these sections together. Each base 32 comprises a lower plate 36 through which it rests on the ground over a wide area. After adjustment, the bases may be locked on the feet

by means of bolts 37 each extending through a hole 38 of the base and a slot 39 of the foot.

Two reinforcing angle-irons 41 have one wing applied against the upper faces of the bracing members 21 and 27, and the other wing, applied against the inner vertical faces of the post 11 and 26.

Each bed section, thus constituted, forms a rigid and light-weight unit which may be manufactured accurately in mass production and, therefore, cheaply by means of welding jigs, for instance.

Furthermore, the particular transverse outline of the bed structure is such that it includes all the elements which are necessary for supporting the principal members of the machine. Thus, the horizontal faces 6 replace the conventional longitudinal members on which the supports for the spindles 53 (see Fig. 2) and the slanting upper faces 16 replace, in a similar manner, the longitudinal members on which the drawing rollers designated by 46 in Fig. 2, were usually mounted.

Still in order to reduce the total number of parts in a complete machine, use is made, for assembling together the various bed sections of members which are already necessary for performing another function. Thus, as already indicated hereinabove, the bases 32 of the jack structures provided for vertically adjusting of the bed also serve for securing together the adjacent feet of two adjacent bed sections. In a similar manner, it will be seen in this embodiment, how use is made, also for assembling the bed sections, of the bearings in which is mounted the longitudinal shaft which carries the drums for driving the belts which rotate the spindles, as well as of the supports for the columns which act as guides for the rods which carry the rings and the anti-balloon wires.

In Figs. 2 and 3, there is shown a bearing 48 which supports a shaft 49 on which are mounted the drums 51 which drive the belts 52 adapted to rotate the spindles 53 in a conventional manner. The base 54 of the bearing 48 is rectangular and carries, at each corner thereof, a screw threaded stud 55 locked by means of two nuts 56 in a corresponding hole provided in the upper face of the extreme bracing member 21, the bearing thus resting on the adjacent bracing members of two adjacent bed sections. Therefore, each bearing rigidly secures two adjacent box-structures. An accurate alignment of the various bearings 48 may be readily obtained by means of the nuts 56 all over the length of the machine bed.

In a similar manner, Fig. 2 shows the upper and lower supports 61 and 62, respectively, of the columns 63 on which slide the rods 64, 65 which carry the conventional rings and anti-balloon wires. These rods are actuated by belts 66 running on pulleys 67 which are secured at intervals on horizontal shafts mounted in some of the supports 61. Fig. 3 shows in which manner these upper and lower supports 61 and 62 serve for assembling the metal sheets 15 and 23 on the one hand, and 8, on the other hand, of two adjacent bed sections of the machine, for instance by means of bolts (not shown).

It will be readily understood that the disposition according to the invention, makes it possible to deliver to the customer bed section, units entirely ready for use not only as concerns the bed section proper which is made of one piece only, but also as concerns the various members and devices mounted on the bed. At the customer's shop, therefore, one operation only is left to be carried out, namely the alignment of the equipped bed sections.

As many changes could be made in the above construction, and many widely different embodiments of this invention could be made without departing from the scope of the claims, it is intended that all matter contained in the above description as shown in the accompanying drawings shall be interpreted as illustrative and not in a limited sense.

What I claim is:

1. A frame for a textile machine formed of a plurality of frame sections arranged in end-to-end relationship with each frame section comprising, a channel shaped sheet-metal member, a second channel shaped sheet-metal member extending in parallel relationship to the first member, transverse members formed of sheet-metal in abutting relationship with said channel shaped members and welded thereto, posts formed of sheet-metal with lower ends resting on said transverse members and extending above and welded to said channel members, longitudinally extending transversely spaced upper channel members formed of sheet-metal secured to upper ends of said posts, said first channel members having flat horizontal faces spaced outwardly from the posts forming spindle rails, said upper channel member being shaped to provide support for drawing roll stands, and means fastening ends of adjacent frame sections to each other.

2. A frame for a textile machine according to claim 1, wherein the fastening means are constituted by supports for columns on which spinning ring and anti-balloon wire carrying rods are slidably mounted.

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